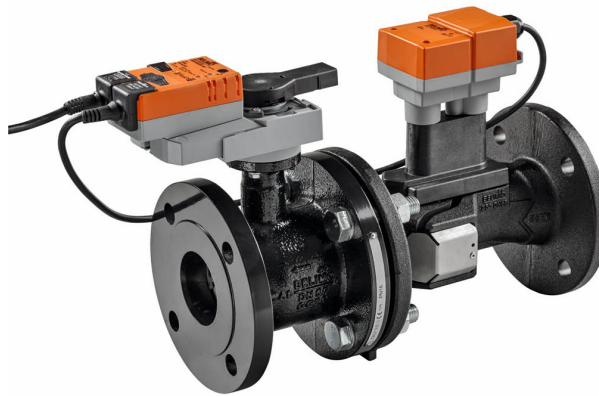


- Nominal voltage AC/DC 24 V
- Control MFT/programmable
- Communication via Belimo MP-Bus or conventional control
- Conversion of active sensor signals and switching contacts



5-year warranty

MP-BUS



Technical data

| | | |
|-------------------------|---|---|
| Electrical data | Nominal voltage | AC/DC 24 V |
| | Nominal voltage frequency | 50/60 Hz |
| | Nominal voltage range | AC 19.2...28.8 V / DC 21.6...28.8 V |
| | Power consumption in operation | 9.5 W |
| | Transformer sizing | 13 VA |
| Functional data | Valve size [mm] | 5" [125] |
| | Operating range Y | 2...10 V |
| | Operating range Y note | 4...20 mA w/ ZG-R01 (500 Ω, 1/4 W resistor) |
| | Input Impedance | 100 kΩ (0.1 mA), 500 Ω |
| | Operating modes optional | VDC variable |
| | Position feedback U | 2...10 V |
| | Position feedback U variable | VDC variable |
| | Running Time (Motor) | 90 s |
| | Sound power level Motor | 45 dB(A) |
| | Control accuracy | ±5% |
| | Min. controllable flow | 1% of V ^{nom} |
| | Fluid | chilled or hot water, up to 60% glycol max (open loop/steam not allowed) |
| | Fluid Temp Range (water) | 14...250°F [-10...120°C] |
| | Close-off pressure Δps | 175 psi |
| | Differential Pressure Range | 5...50 psi or 1...50 psi see flow reductions chart in tech doc |
| | Flow characteristic | equal percentage or linear |
| Body Pressure Rating | ANSI Class 125, standard class B, flat-face | |
| GPM | 495 | |
| Servicing | maintenance-free | |
| Manual override | external push button | |
| Flow measurement | Measuring accuracy flow | ±2%* |
| | Measurement Repeatability | ±0.5% (Flow) |
| | Sensor Technology | Ultrasonic with glycol and temperature compensation |
| Safety data | Power source UL | Class 2 Supply |
| | Degree of protection IEC/EN | IP54 |
| | Degree of protection NEMA/UL | NEMA 2 |
| | Enclosure | UL Enclosure Type 2 |
| | Agency Listing | cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02 CE acc. to 2014/30/EU and 2014/35/EU |
| | Quality Standard | ISO 9001 |

| | | |
|--------------------|---------------------|---|
| Safety data | UL 2043 Compliant | Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC |
| | Ambient humidity | Max. 95% RH, non-condensing |
| | Ambient temperature | -22...122°F [-30...50°C] |
| | Storage temperature | -40...176°F [-40...80°C] |
| Materials | Valve body | Cast iron - GG 25 |
| | Flow measuring pipe | Ductile cast iron - GGG50 |
| | Stem | stainless steel |
| | Stem seal | EPDM (lubricated) |
| | Characterized disc | stainless steel |
| | Seat | PTFE |
| | Pipe connection | pattern to mate with ANSI 125 flange |
| | O-ring | EPDM (lubricated) |
| | Ball | stainless steel |

Safety notes


- This device has been designed for use in stationary heating, ventilation and air-conditioning systems and must not be used outside the specified field of application, especially in aircraft or in any other airborne means of transport.
- Outdoor application: only possible in case that no (sea) water, snow, ice, insulation or aggressive gases interfere directly with the actuator and that is ensured that the ambient conditions remain at any time within the thresholds according to the data sheet.
- Only authorized specialists may carry out installation. All applicable legal or institutional installation regulations must be complied during installation.
- The device contains electrical and electronic components and must not be disposed of as household refuse. All locally valid regulations and requirements must be observed.

Product features

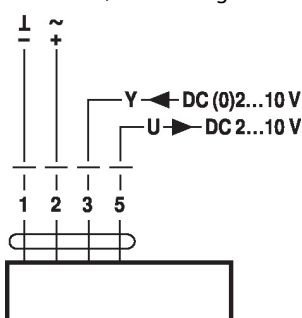
Flow measurement *All flow tolerances are at 68°F [20°C] & water.

Accessories

| Electrical accessories | Description | Type |
|------------------------|---|-----------------|
| | Replacement flow sensor for EPIV, electromagnetic | EPIVFS-60 |
| | Service Tool, with ZIP-USB function, for programmable and communicative Belimo actuators, VAV controller and HVAC performance devices | ZTH US |
| Mechanical accessories | Description | Type |
| | Weather shield for Belimo Energy Valve™, 100...150, Ultrasonic models only | ZS-EPIV-EV-150U |

Electrical installation

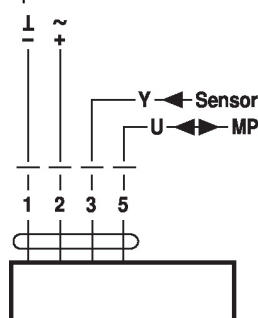
AC/DC 24 V, modulating



Cable colors:

- 1 = black
- 2 = red
- 3 = white
- 5 = orange

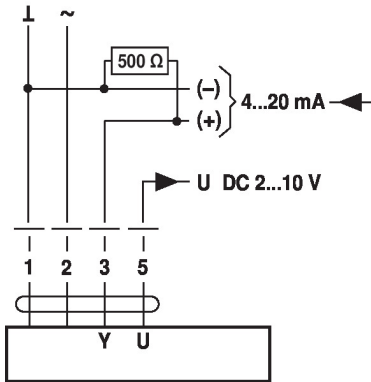
Operation on the MP-Bus



Cable colors:

- 1 = black
- 2 = red
- 3 = white
- 5 = orange

Control with 4...20 mA via external resistor

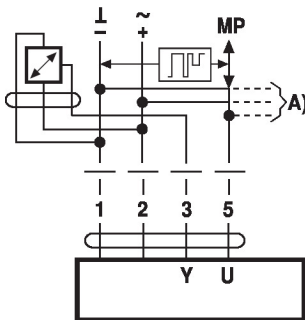


Caution:

The operating range must be set to DC 2...10 V.

The 500 Ohm resistor converts the 4...20 mA current signal to a voltage signal DC 2...10 V.

Connection of active sensors



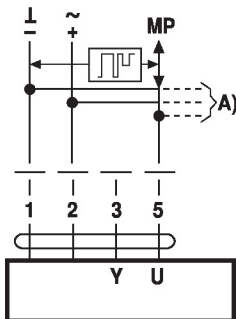
A) additional MP-Bus nodes (max. 8)

- Supply AC/DC 24 V
- Output signal DC 0...10 V (max. DC 0...32 V)
- Resolution 30 mV

Functions

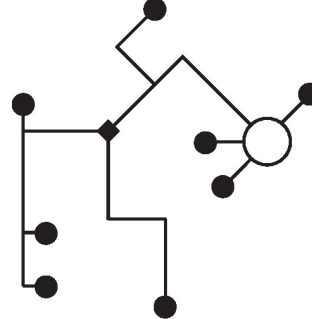
Functions when operated on MP-Bus

Connection on the MP-Bus



A) additional MP-Bus nodes (max. 8)

MP-Bus Network topology



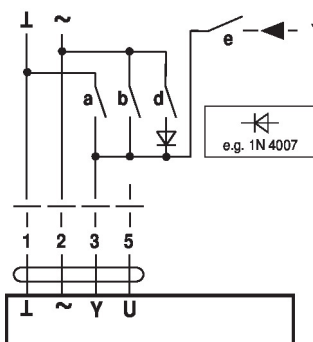
There are no restrictions for the network topology (star, ring, tree or mixed forms are permitted).

Supply and communication in one and the same 3-wire cable

- no shielding or twisting necessary
- no terminating resistors required

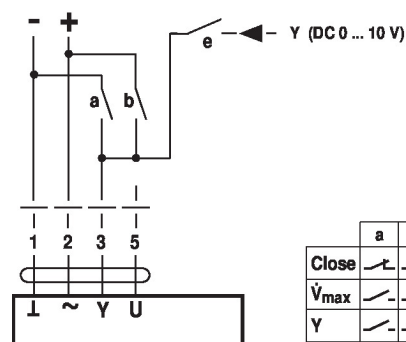
Functions with specific parameters (Parametrisation necessary)

Override control and limiting with AC 24 V with relay contacts



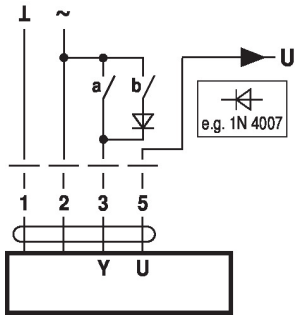
| | a | b | d | e |
|------------------|---|---|---|---|
| Close | ↗ | ↘ | ↖ | ↙ |
| V _{max} | ↗ | ↘ | ↖ | ↙ |
| Open | ↗ | ↘ | ↖ | ↙ |
| Y | ↗ | ↘ | ↖ | ↙ |

Override control and limiting with DC 24 V with relay contacts



| | a | b | d | e |
|------------------|---|---|---|---|
| Close | ↗ | ↘ | ↖ | ↙ |
| V _{max} | ↗ | ↘ | ↖ | ↙ |
| Y | ↗ | ↘ | ↖ | ↙ |

Control floating point



Position control: 90° = 100s
 Flow control: Vmax = 100s

Dimensions

Dimensional drawings

